

*What is claimed is:*

1. A method for logically segmenting a plurality of objects in a graphical  
5 user interface, the method comprising:  
selecting a first set from the plurality of objects;  
defining the first set as a first group with a first associated boundary; and  
modifying the first group in response to moving a selected entity across  
said first associated boundary;  
10 wherein the selected entity is an object, a second set, a second group, a  
plurality of groups, and combinations thereof within the plurality of  
objects.
2. The method of claim 1, wherein moving the selected entity across the first  
15 associated boundary occurs when any part of the selected entity is moved across the first  
associated boundary in a direction from outside the first group to within the first group.
3. The method of claim 1, wherein moving the selected entity across the first  
associated boundary occurs when any part of the selected entity is moved across the first  
20 associated boundary in a direction from within the first group to outside of the first group.
4. The method of claim 1, wherein moving the selected entity across the first  
associated boundary is done with a drag and drop function.
- 25 5. The method of claim 2, further comprising:  
adding all objects of the selected entity which are not already part of the  
first group to the first group; and  
expanding said first associated boundary to include all objects of the  
selected entity which were not already part of the first group.  
30
6. The method of claim 5, further comprising undefining the second group  
and plurality of groups entirely contained within the selected entity by removal of their  
associated boundaries.

7. The method of claim 5, further comprising:  
subtracting a selected subset from any of the second group and the  
plurality of groups, included in the selected entity, from its  
corresponding group; and  
contracting each group's associated boundary to include only those objects  
remaining in that group.
8. The method of claim 3, further comprising:  
subtracting all objects of the selected entity which are not already part of  
the first group from the first group; and  
contracting said first associated boundary to include only those objects  
remaining in the first group.
9. The method of claim 8, further comprising moving the first group,  
including the first associated boundary, as a whole when the selected entity contains all  
objects of the first group.
10. The method of claim 9, further comprising:  
selecting the second set from the list of elements; and  
redefining the first group so that the subset of elements of the second set  
which are common to the first group are no longer included in the first  
group.
11. The method of claim 10, wherein only contiguous elements can be  
selected.
12. The method of claim 11, wherein redefining the first group comprises:  
removing the first associated boundary;  
bisecting the first group only when the second set was not adjacent to  
either the first upper limit or the first lower limit; and

defining each of the two sets of remaining contiguous elements resulting from bisection of the first group, above and below the second set, as new groups with associated boundaries.

5           13.    The method of claim 12, wherein redefining the first group comprises:  
truncating the first group by removal of a subset of elements of the second  
set which are common to the first group and which are adjacent to  
either the first upper limit or the first lower limit; and  
10           realigning whichever of the first upper limit or the first lower limit that the  
subset was adjacent to, so that the first associated boundary  
encompasses only those elements remaining in the first group.

15           14.    The method of claim 13, wherein redefining the first group comprises  
undefining the first group when the second set contains all the elements of the first group.

20           15.    The method of claim 14 further comprising redefining any of the plurality  
of groups, which also have elements common to the second set, in the same manner as  
the first group.

25           16.    An apparatus for logically segmenting a list of elements in a graphical user  
interface, comprising:  
means for selecting a first set from the list of elements;  
means for defining the first set as a first group of contiguous elements  
with a first associated boundary having a first upper limit and a first  
lower limit; and  
30           means for modifying the first group in response to moving a selected  
entity across said first associated boundary, wherein the selected entity  
is an element, a second set, a second group, a plurality of groups, and  
combinations thereof within the list of elements.

17. The apparatus of claim 16, wherein moving the selected entity across said first associated boundary occurs when any element of the selected entity is moved across the first upper limit or the first lower limit in a direction from outside the first group to within the first group.

5

18. The apparatus of claim 17, wherein moving the selected entity across said first associated boundary occurs when any element of the selected entity is moved across the first upper limit or the first lower limit in a direction from within the first group to outside of the first group.

10

19. The apparatus of claim 18, further comprising:  
means for adding all elements of the selected entity which are not already  
part of the first group to the first group; and  
means for expanding said first associated boundary to include all elements  
of the selected entity which were not already part of the first group.

15

20. The apparatus of claim 19, further comprising:  
means for undefining the second group and plurality of groups entirely  
contained within the selected entity by removal of their associated boundaries.

20

21. The apparatus of claim 20, further comprising:  
means for subtracting a selected subset from any of the second group and  
the plurality of groups, included in the selected entity, from its  
corresponding group; and  
means for contracting each group's associated boundary to include only  
those objects remaining in that group.

25

22. The apparatus of claim 21, further comprising:  
means for subtracting all elements of the selected entity which are not  
already part of the first group from the first group; and  
means for contracting said first associated boundary to include only those  
elements remaining in the first group.

30

23. The apparatus of claim 22, further comprising:  
means for moving the first group, including the first associated boundary, as a whole when the selected entity contains all elements of the first group.

5 24. The apparatus of claims 23 wherein only contiguous elements can be selected.

25. The apparatus of claim 24, wherein moving the selected entity within the list of elements occurs with one-element shift increments, only when the entity is not  
10 crossing any group's associated boundary.

26. The apparatus of claim 25, wherein an adjacent element is displaced in favor of the selected entity to a position on the opposite side of the selected entity when the selected entity is moved toward said adjacent element.  
15

27. The apparatus of claim 26, further comprising:  
means for indicating movement of the entity across any group's associated boundary by an expansion or contraction of the boundary and not actually moving the entity.  
20

28. The apparatus of claim 27, further comprising:  
means for undefining the first group by removing the first associated boundary when only one element remains in the first group.

25 29. The apparatus of claim 28, further comprising:  
means for moving the first group, including the first associated boundary, as a whole when the selected entity contains all elements of the first group.

30. The apparatus of claim 29, wherein a bracket is used to represent each  
30 group's associated boundary.

31. The apparatus of claim 30, wherein an icon is used to denote each group.

32. The apparatus of claim 31, wherein selecting said icon also selects the icon's corresponding group.

33. The apparatus of claim 32, further comprising:  
5 means for selecting the second set from the list of elements, distinct from the first set;  
means for defining the second set as the second group with a second associated boundary having a second upper limit and a second lower limit; and  
10 means for redefining the first group when any elements of the second set are common to the first group.

34. The apparatus of claim 33, wherein only contiguous elements can be selected.

35. The apparatus of claim 34, wherein means for redefining the first group further comprises:  
means for removing the first associated boundary;  
means for bisecting the first group only when the second set was not  
20 adjacent to either the first upper limit or the first lower limit; and  
means for defining each of the two sets of remaining contiguous elements resulting from bisection of the first group, above and below the second group, as new groups with associated boundaries.

36. The apparatus of claim 35, wherein means for redefining the first group further comprises:  
means for truncating the first group by removal of a subset of elements of the second set which were common to the first group and which are adjacent to either the first upper limit or the first lower limit; and  
30 means for realigning whichever of the first upper limit or the first lower limit that the subset was adjacent to, so that the first associated boundary encompasses only those elements remaining in the first group.

37. The apparatus of claim 36, wherein means for redefining the first group comprises:

means for undefining the first group by removing the first associated boundary when the second set contains all elements of the first group.

5

38. The apparatus of claim 37 further comprising redefining any of the plurality of groups, which also have elements common to the second set, in the same manner as the first group.

10  
15  
20  
25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90  
95  
100  
105  
110  
115  
120  
125  
130  
135  
140  
145  
150  
155  
160  
165  
170  
175  
180  
185  
190  
195  
200  
205  
210  
215  
220  
225  
230  
235  
240  
245  
250  
255  
260  
265  
270  
275  
280  
285  
290  
295  
300  
305  
310  
315  
320  
325  
330  
335  
340  
345  
350  
355  
360  
365  
370  
375  
380  
385  
390  
395  
400  
405  
410  
415  
420  
425  
430  
435  
440  
445  
450  
455  
460  
465  
470  
475  
480  
485  
490  
495  
500  
505  
510  
515  
520  
525  
530  
535  
540  
545  
550  
555  
560  
565  
570  
575  
580  
585  
590  
595  
600  
605  
610  
615  
620  
625  
630  
635  
640  
645  
650  
655  
660  
665  
670  
675  
680  
685  
690  
695  
700  
705  
710  
715  
720  
725  
730  
735  
740  
745  
750  
755  
760  
765  
770  
775  
780  
785  
790  
795  
800  
805  
810  
815  
820  
825  
830  
835  
840  
845  
850  
855  
860  
865  
870  
875  
880  
885  
890  
895  
900  
905  
910  
915  
920  
925  
930  
935  
940  
945  
950  
955  
960  
965  
970  
975  
980  
985  
990  
995